

Pinus ponderosa / Schizachyrium scoparium Wooded Herbaceous Vegetation

COMMON NAME	Ponderosa Pine / Little Bluestem Wooded Herbaceous Vegetation
SYNONYM	Ponderosa Pine / Little Bluestem Savanna
PHYSIOGNOMIC CLASS	Herbaceous vegetation (V)
PHYSIOGNOMIC SUBCLASS	Perennial graminoid vegetation (V.A)
PHYSIOGNOMIC GROUP	Temperate or subpolar grassland with a sparse tree layer (V.A.6)
PHYSIOGNOMIC SUBGROUP	Natural/semi-natural (V.A.6.N)
FORMATION	Medium-tall temperate or subpolar grassland with a sparse needle-leaved evergreen or mixed tree layer (V.A.6.N.f.)
ALLIANCE	<i>Pinus ponderosa</i> Wooded Medium-tall Herbaceous Alliance

CLASSIFICATION CONFIDENCE LEVEL 2

USFWS WETLAND SYSTEM Upland

RANGE

Globally

Currently reported from western Nebraska, South Dakota, and eastern Wyoming; it is unknown if it also occurs in Montana and Colorado.

Devils Tower National Monument

This community occurs throughout the park on steeper slopes underlain by sedimentary rocks. It is especially well-developed on the slopes above the floodplain south and east of Devils Tower, near the east end of the Joyner Ridge Trail loop and along the northeast part of the Red Beds Trail loop. Non-mappable stands occur in many places as ecotones between ponderosa pine communities and grassland.

ENVIRONMENTAL DESCRIPTION

Globally

This community is found on loamy, sandy, or rocky soil. It is usually found on gentle to moderate slopes. Parent material is usually either sandstone or limestone (McAdams et. al 1998).

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The larger stands of this community were observed on slopes ranging from 13 to 30 degrees. Stands were found on all aspects but northerly. Soils typically are sandy and sandstone outcrops are common.

MOST ABUNDANT SPECIES

Globally

<u>Strata</u>	<u>Species</u>
Tree canopy	<i>Pinus ponderosa</i> , <i>Juniperus scopulorum</i>
Short shrub	<i>Rhus trilobata</i> , <i>Symphoricarpos occidentalis</i>
Herbaceous	<i>Bouteloua gracilis</i> , <i>Carex filifolia</i> , <i>Schizachyrium scoparium</i>

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<u>Strata</u>	<u>Species</u>
Tree canopy	<i>Pinus ponderosa</i>
Subcanopy	<i>Juniperus scopulorum</i>
Short shrub	<i>Rhus trilobata</i>
Herbaceous	<i>Schizachyrium scoparium</i>

USGS-NPS Vegetation Mapping Program
Devils Tower National Monument

DIAGNOSTIC SPECIES

Globally

Pinus ponderosa, *Schizachyrium scoparium*, *Yucca glauca*, *Opuntia* spp.

Devils Tower National Monument

Pinus ponderosa, *Schizachyrium scoparium*

VEGETATION DESCRIPTION

Globally

This community has scattered mature trees with a fairly continuous graminoid understory. *Pinus ponderosa* is the most abundant tree species, sometimes with *Juniperus scopulorum* present as small trees or tall shrubs. The most abundant graminoids in the understory are *Schizachyrium scoparium*, *Stipa comata*, *Carex filifolia*, *Bouteloua gracilis*, and *B. curtipendula*. *Calamovilfa longifolia* and *Koeleria macrantha* may be found on sandy soils in the eastern part of this community's range. Forbs that may be present include *Gaura coccinea*, *Psoraleidium lanceolatum*, and *Asclepias pumila*. In addition to the herbaceous species, shrubs such as *Symphoricarpos occidentalis*, *Rhus aromatica*, and *Cercocarpus montanus* are sometimes found in this community.

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This community is dominated by *Pinus ponderosa* in the canopy and by dry prairie graminoids in the understory with *Schizachyrium scoparium* consistently most abundant. *Carex filifolia* and *Bouteloua curtipendula* often are significant components of the herbaceous stratum. *Juniperus scopulorum* (subcanopy) and *Rhus trilobata* (short shrub) are consistent components, though not abundant. Canopy cover typically is sparse, with few widely-spaced trees (this is easily seen in aerial photographs). The subcanopy and shrub strata typically are sparse or occasionally absent. Herbaceous cover generally is greater than 50%.

OTHER NOTEWORTHY SPECIES Information not available.

CONSERVATION RANK G2G3

RANK JUSTIFICATION

There are probably fewer than 100 occurrences in a restricted range in the northwestern Great Plains. Over 3000 ha are currently documented, and at least that much is expected in other occurrences. Two of the currently documented occurrences are in fair condition; it seems likely that occurrences have been degraded by cattle grazing.

DATABASE CODE Cegl002019

COMMENTS

Globally

Periodic fires are probably important in maintaining the open grassland understory of this type.

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In some areas, this community probably is an artifact of fire history, representing post-burn pine encroachment into *Schizachyrium scoparium* - *Bouteloua* (*curtipendula*, *gracilis*) - *Carex filifolia* Herbaceous Vegetation.

REFERENCES

Hayward, H. H. 1928. Studies of plants in the Black Hills of South Dakota. *Botanical Gazette* 85(4):353-412.

McAdams, A. G., D. A. Stutzman, and D. Faber-Langendoen. 1998. Black Hills Community Inventory, unpublished data. The Nature Conservancy, Midwest Regional Office, Minneapolis, MN.

Steinauer, G. 1989. Characterization of the natural communities of Nebraska. Pp. 103-141, in, M. Clausen, M. Fritz, and G. Steinauer. The Nebraska Natural Heritage Program, Two Year Progress Report, Appendix D. Lincoln, NE.